

MICROWELL BIOCHIP

Abstract of the Disclosure

Microwell biochips (11) are formed from a thin flat plate (13) of polymeric material having a plurality of regularly spaced holes (15) that extend completely therethrough and create microwells. The lower end of each hole is closed by a microporous, hydrophobic, polymeric membrane (17) laminated to the undersurface of the plate which retains an aqueous test solution in the wells until a vacuum is applied to the undersurface thereof to effect draining of the solution and of any wash solution that might be subsequently added. A spot of polymerizing isocyanate-functional hydrogel is applied generally centrally to the porous membrane surface at the bottom of each well in a manner so as to cover only a minor portion of the surface and out of contact with the well sidewalls, thus leaving substantial surface area through which drainage can be readily effected. Biological capture agents are associated with the polymerizing hydrogel so as to become immobilized as a part thereof.